

Remarks by the Honorably Ray Mabus  
Secretary of the Navy  
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Thank you to the person following me, Jim Miller, and Google, for hosting this, and to my good friend and colleague, Kate Brandt – Kate started at Navy about the same time I did, as a special assistant. And she just kept doing such a great job that she kept moving up, and became my lead for energy at Navy. And then, because she was doing such a great job, first the White House stole her, and now she's lead for sustainability at Google. And to my friend David Krane, head of Google Ventures, who is joining us here today.

You know, when you think of stuff like carbon footprint or alternative energy, the United States Navy is probably not the first group you think of. We're a warfighting organization. We run huge ships, lots of aircraft. We don't spring to mind as leaders in energy change or in carbon reduction. But historically, we do. We have always been at the forefront of energy change. We went from sail to coal in the middle of the 19<sup>th</sup> century. We went from coal to oil at the beginning of the 20<sup>th</sup> century. We pioneered the use of nuclear energy in the middle of the 20<sup>th</sup> century for transportation.

And every single time we did that, every single time, there have been naysayers, including people who had my job. We went from something free, the wind, to something that cost money, coal. Then we abandoned coaling stations all around the world to go to oil. When we went to nuclear, people said you can never make it small enough, you can certainly never make it safe enough to use on a day-to-day basis on submarines and on carriers. And now that we're moving into alternative fuels, there are the same naysayers. They have been wrong every single time. And they're wrong this time too.

I'm going to talk about energy and power in just a minute, but I can't leave an audience – or miss an opportunity to talk about Navy 101, because the Navy and Marine Corps are America's away team. We never get a home game. When we're doing our job, we're usually a long, long way from home. And you just simply don't see the Sailors and Marines. You don't see how hard the jobs are that we've given them. You don't see how high our expectations are for doing those jobs. And you don't see how good they are at doing them.

And most people in America don't know people in the military. Such a small percentage serve wearing the uniform of the country. And thanks to David Krane, I've met some of the people at Google who have served, who have worn the uniform, and now work for a great company like this. But let me just tell you a few of the things we're doing in the Navy, and then I'll get to energy. As Lance said, we've got four Ps: people, platforms, power and partnerships.

Well, those four combine to give what the Navy and Marine Corps uniquely give to our country, which is presence.

We're in the right place not just at the right time, but all the time. We keep the sea lanes open. Ninety percent of world trade goes by sea. Ninety-five percent of the world's data goes under the sea. That's our job, to keep those lines of communication open. And to do that, we've got to have that presence. We get on station faster, we stay longer, we bring whatever we need with us, and we don't have to, because we operate from our ships, from the sea – we're operating from sovereign American territory, so we don't have to ask anybody's permission to get the job done that we need to do.

The Constitution of the United States says that Congress has the ability to raise an army when it's needed, but it has the responsibility to maintain the Navy. And that not-so-subtle difference explains the value of the Navy and Marine Corps to this country. Those four Ps, giving us that presence, and people come first. Just like any of the companies that were listed today, people are what drive it. And we've been trying to make the military more family friendly. We don't have enough women in the Navy and Marine Corps.

A stronger force is a more diverse force. The more diversity of thought that you bring to the situation, the more diversity of background that you bring, the better you're going to be at what you do. So I'm just going to list a few of the things we've been doing. Every job in the Navy and Marine Corps is now open to women. I made the decision to put women on submarines and on riverine craft in 2010. The decision was made to put women into ground combat units –Special Forces to SEALs – last fall.

You set standards, you change those standards as needs change, but you don't change it for any particular group. But once you do that, gender shouldn't matter. If you can do the job, who cares? Who you love shouldn't matter. The color or shade of your skin should not matter, only whether you can do the job.

We're currently expanding something called the Career Intermission Program, so that you can take up to three years off to do anything you want to do – have a family, look after a loved one, get a degree that we're not going to pay for but may help you in other ways. Now, you owe up two years back for every year you take off, but what we're going to do is when we come back you'll be competing against people from three years later and not the people who stayed on active duty. So your career should not suffer.

I tripled paid maternity leave from six weeks to 18 weeks for the Navy and Marine Corps because too many women were making the choice, or having to make the choice, or being forced to make the choice between a career and a family. It was always the norm. We were losing twice as many women from year six to year 12 than we were men. And if you want to look at it just from a purely selfish standpoint, the investment that we have in a pilot, submariner, surface officer, or an intel cryptologist, an IT specialist, is huge. And if we lose that person after seven or eight years, we have to start over with somebody brand new without the experience. And we have to make that investment all over again.

One sort of one-off thing that I've been doing is moving the Navy and Marine Corps to one uniform for men and women. We have segregated women with different uniforms. If you asked any other group to wear a different uniform, think of the reaction you would get. And it was a historical accident. It was because in World War II women served in the auxiliary, not in the active duty forces. And so they were given different uniforms for a reason. And now we're moving – because when you look out, you don't want to see male Marines and female Marines or male Sailors and female Sailors. You want to see United States Sailors and Marines.

We've tried to promote based on merit more than on year group. We're doing Secnav industry tours with great companies, like Google. You go out for a year or so, take some best practices from the military, learn from best practices from the civilian field, and come back to the fleet and apply those. We've done stuff that's second nature to you here. And I'm trying to get people to eat healthier and have a culture of fitness instead of training for a fitness test twice a year. I brought ROTC – Naval ROTC back to Harvard and Yale and Princeton, Columbia. But I also established it at Rutgers and Arizona State. We need a stronger force. We need different backgrounds. We need different experiences. We don't need everyone to think in the same way or operate in the same way.

Platforms. On 9/11 the U.S. Navy had 316 ships. Seven years later, after one of the great military buildups in our history, we were down to 278 ships. In those seven years, the Navy put 41 ships under contract. And that wasn't enough to keep our fleet from shrinking and it wasn't enough to keep our shipyards open and healthy. I've been here for seven years now. We have put 84 ships under contract in the past seven years. And we've done it with a 20 percent smaller budget. We're going to get back to the fleet that we need, 308 ships, by 2021.

It takes a long time to build a ship. You cannot throw money at it and make it happen. It just takes a long time. You can throw money and get weapons. You can throw money at aircraft and you can get them quicker. You really can't do that with ships.

We haven't done it at the expense of aircraft. We bought 45 percent more aircraft over the past seven years. And we've been cutting edge on things like unmanned, and lasers, and railguns, and 3-D printing or additive manufacturing.

Partnerships. I travel a lot. I almost have to wear a nametag when I go home. (Laughter.) Let me tell you where I've been in the last three weeks. Three weeks ago tomorrow, I had my last hearing on the budget. I walked out, got on an airplane, and went to the Arctic. Got a submarine, spent five days underway, under the Arctic ice, and then surfaced at the North Pole. It was 50 below, but if you want to see the effects of global warming, the ice at the North Pole is less than a foot thick. And it was the thinnest ice that the ice pilots who were on board had ever seen.

I came back, spent 36 hours at home, and then went to the Central African Republic, Mozambique, South Africa, Gabon and Uruguay. Came back, spent 36 hours at home, here I am right now. I'm going to Camp Pendleton after this. I'll be in Boston tonight. And I get to go home and spend a couple days tomorrow. But the reason I do this, is to go see our Sailors and Marines where they are, instead of waiting at the Pentagon just on the off change that they come

see me, to listen to their concerns. And to work with our foreign partners and allies and friends. Because it doesn't matter how big you are, it doesn't matter how good you are, we can't do this by ourselves. It's sort of like CDP.

And finally, power. The Pentagon is the largest user of fossil fuels on Earth. And the Navy is a little more than a third of that. Energy can be used as a weapon. All you got to do is look at what Russia did in Ukraine, what Russia tried to do to Europe. And I certainly didn't want that weapon to be used against us. The reason we're moving toward alternative energy is it makes us better at what we do. It makes us better. It makes us a better Navy and it makes us a better Marine Corps.

And I'll repeat a couple of the things that Lance said. In President Obama's 2012 State of the Union he said that Navy would have a gigawatt of alternative energy for our shore bases by 2020. We got there actually five years early, on December 31<sup>st</sup>, 2015. We're a seagoing service, but we also have 3 ½ million acres of land, 117,000 buildings. We use a lot of energy. And by doing it, by switching to alternative energy, and then once we're there on alternative by moving to microgrids, we can take ourselves off the grid in case something happens and we can continue to do our military responsibilities. So for example, last December we signed the largest the largest alternative agreement that a federal agency's ever signed.

The Western Area Power Authority is going to provide about a third of the power for 14 bases that we have in Southern California. Everything that we do, the whole one gigawatt – we're past one gigawatt. And we're going to continue to go past it as a public-private partnership. We contract so the private sector builds the solar facility or the wind facility or the geothermal or hydrothermal, or whatever we're doing. And we guarantee to take the output for 25 years, allowing them to get financing for it.

At sea, we certified every one of our ships and every one of our aircraft on biofuels. Now, this is second and third generation biofuels. We only have three requirements. One is it's got to be a drop-in fuel. We can't change all our engines. Our engines can't notice the difference. Two is it can't take any land out of food production. And third, it's got to be cost effective. Now, we got some great side effects over top of it. We're greener. We're better stewards of the environment.

But to be really frank with you, that's not the main reason we're doing it. We're doing it to be better at being warfighters. We're doing to make us a better force. And at sea, Lance mentioned we've got the Great Green Fleet out there right now, the John Stennis Strike Group, and every ship – the carrier's nuclear, which is alternative. Every ship in that strike group is steaming on a blend of regular marine diesel and biofuels. And this particular biofuel happens to be made from animal byproducts. We've also bought biofuels made from used cooking oil, from agricultural waste, from landfills. We don't care what the feedstock is. We care what the output is.

And the Great Green Fleet is becoming the new normal. We didn't advertise the biofuels. We put an RFP out for fuel. And we encouraged biofuel companies to respond. And they competed against regular traditional fuel. And even with oil prices as low as they are, they

were able to compete and become the new normal. And the ships certainly don't know. And we don't know anymore because it just goes into our supply chain and shows up and gets pumped into our ships at sea. And we don't know exactly what the biofuel is and how much regular fuel we have.

Two services report to me, the Navy and the Marine Corps. And I bet you, when you think of United States Marines, ardent environmentalist isn't the first thing that jumps to your mind. But the Marines have been way out in front on this. And the reason they have been, at the height of the fighting in Afghanistan, we were losing a Marine, killed or wounded, per 50 tons of fuel we brought in. We brought in more fuel than anything else. So the Marines have moved to stuff like solar blankets, which they roll up, put in their packs, and use to charge their radios, their GPSs. That saved a Marine company 700 pounds of batteries that they didn't have to carry, and they didn't have to be resupplied with batteries.

We've got SEAL teams in the field now that are getting close to net zero in terms of both energy and water. They use alternative energy to purify water, so that they can stay out almost indefinitely, with food being the one thing they may have to be resupplied with. They're beginning to move to things like knee braces, so that as they walk, as Marines tend to do – Marines see a hill, they want to go up it. Whether they need to go up it or not, they want to go up it. (Laughter.) And they're using knee braces to get that kinetic energy and translate it into power for their radio, for their GPS, for the other things that they need.

We just announced an RFP for the largest fleet of electric vehicles in the country. The Navy and Marine Corps have 50,000 noncombat vehicles. We're trying to move that to alternatives, to electric, to flex-fuel vehicles so that we can cut down on the amount of energy that we use and we can change the type. And we're big. We're big enough to bring the market. We're big enough to change the way things operate. And that's happened with the military over and over again. Flat-screen TVs came out of the military. GPS, the Internet, all were military before they moved into the civilian world.

And finally, efficiencies. If we change the lightbulbs of a destroyer, just go from traditional bulbs to LEDs, we save 20,000 gallons of fuel a year on that ship. Plus, we don't have to change the lightbulbs every six months. They last about seven years. Plus, the light's better. We've got two hybrid ships out there now. Tom Friedman called them the Prius of the seas. And they're huge ships, USS America and the USS Makin Island. They have an electric drive for speeds under 12 knots and just regular diesel for speeds over 12 knots. The first time the Makin Island went out on deployment, she brought back almost half of her fuel budget, and she stayed out at sea 44 days longer than anybody else in her amphibious ready group.

I went on Makin Island on that deployment. And one of the things the chief engineer said was, you know, this is great. This technology is wonderful. And we are saving a lot of fuel because of that. But the real reason we're saving is that Sailors come up to me and say: I got an idea on how we can use less fuel in my workstation. So these third class, second class petty officers are the things driving the changes. It's being driven from the bottom instead of from the top, which is the way it should work.

So we're doing a bunch of stuff. But you can't work in any of the occupations that we're in and stop. So we got to keep going. So one of the things I'm really happy to do today is to announce that the Department of the Navy is going to participate in CDP's supply chain program. We're going to get our major suppliers – and we buy a lot of stuff – to participate, to disclose what their carbon footprint, their carbon management practices are, as they sell to us. And as Lance has pointed out, it's already in use by 85 global purchasing organizations to collaborate with their suppliers. And I hope that by bringing an organization as big as the Department of the Navy in will help to accelerate that.

We're really glad to be part of this. As he pointed out, last year for the first time renewable energy accounted for a majority of the new electric generating capacity in the world. Coal and gas fired generation grew by less than half the amount of the investment made in solar and wind and others. We've got an interest in this. We've got skin in this game.

As the climate changes, our responsibilities change. As the Arctic is becoming ice free, at least in the summer, we have a responsibility in the Arctic. We have a responsibility for search and rescue, and we have a responsibility for doing our military job in the sea lanes, helping to keep them open for everybody. When the sea levels rise, instability almost inevitably follows. The Navy and Marine Corps are America's first responders. We're going to be called on around the world if sea levels continue to rise. And we are the Navy. Most of our bases tend to be on the water. As sea levels rise, it's beginning to endanger those bases and their ability to do their job.

So what CDP is doing, what you're all doing is helping to have an impact in the right way on climate change. So on behalf of the Navy, thank you. Thank you for what you're doing. Thank you for taking a leadership role in this. And we'll be there. We'll be where we've always been: out front, in front of energy change, in front of innovation and, whatever our methods, innovate, adapt, overcome. We're ready to take on whatever challenge comes over that horizon at us.

So from the Navy, Semper Fortis, Forever Courageous. From the Marines, Semper Fidelis, Forever Faithful. Thank y'all very much.